

The Great American Bank in Eastern Canada: A Synthesis*

Denis Lavoie¹, André Desrochers², George Dix³, Ian Knight⁴, and Osman Salad Hersi⁵

Search and Discovery Article #30281 (2013)**

Posted August 26, 2013

*Adapted from oral presentation given at AAPG 2013 Annual Convention and Exhibition, Pittsburgh, Pennsylvania, May 19-22, 2013

**AAPG©2013 Serial rights given by author. For all other rights contact author directly.

¹Geological Survey of Canada, Ottawa, Canada (delavoie@nrcan.gc.ca)

²University of Ottawa, Ottawa, Canada

³Carleton University, Ottawa, Canada

⁴Geological Survey of Newfoundland and Labrador, Newfoundland, Canada

⁵Regina University, Regina, Saskatchewan, Canada

Abstract

The rifted margin of Laurentia in eastern Canada had a rugged morphology with salients and recesses formed during the break-up of Rodinia. After short-lived carbonate production during the Early Cambrian, the Great American Carbonate Bank was firmly established in the earliest Middle Cambrian as the last rift-related event was followed by passive thermal subsidence.

Middle to Upper Cambrian carbonates are preserved in the Port au Port Group in Newfoundland. Late Middle to Upper Cambrian carbonates are found in southern and eastern Quebec although most of the preserved Upper Cambrian facies in the Reentrant consist of nearshore to fluvial clastics unconformably over the Grenvillian basement. The Cambrian carbonates are dominated by high-energy facies with significant thrombolite reefs at the platform margin. The succession consists in large-scale transgressive-regressive cycles known as Cambrian Grand Cycles. The Cambrian-Ordovician transition occurred at a time of a major sea level lowstand that resulted in a major unconformity in southern Quebec and Ontario. In Newfoundland, this sea level fall is recorded in the regressive facies of the last Cambrian Grand Cycle, but did not culminate in sub-aerial exposure.

The duration of the depositional hiatus at the Cambrian-Ordovician transition increases towards the west, from an early Skullrockian gap in the Philipsburg Thrust Slice in Quebec, the hiatus covered entire Skullrockian in eastern Ontario. Major sea level rise at or near the base of the Ordovician led to sedimentation on an extensive peritidal mud-dominated, low-energy carbonate platform. This platform is known as the St. George Group (Newfoundland), the Beekmantown Group (Quebec and Ontario), the School House Hill Group (southeastern Quebec) and the Romaine Formation (Anticosti Island). Two third order cycles are documented in Newfoundland. The presence of such cycles is also proposed further south. Multiple fifth order, metre-scale peritidal dominated cycles have been documented.

A diachronous change in depositional style occurred near the base of the Middle Ordovician. Facies patterns became controlled by faulting and accumulation rates increased significantly. These changes occurred first in late Ibexian in southeastern Quebec and in early Whiterockian elsewhere. At most localities, this transition is also expressed in a significant sub-aerial unconformity that is recognized along the entire paleosouthern margin of Laurentia.

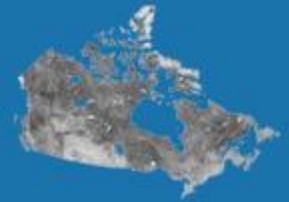
References Cited

Allen, J.S., W.A. Thomas, and D. Lavoie, 2010, The Laurentian margin of northeastern North America, *in* R.P. Tollo, M.J. Bartholomew, J.P. Hibbard, and P.M. Karabinos, (eds.), *From Rodinia to Pangea; the lithotectonic record of the Appalachian region*: GSA Memoir, v. 206, p. 71-90.

Desrochers, A., D. Lavoie, P. Brennan-Alpert, and G. Chi, 2012, Regional stratigraphic, Depositional, And Diagenetic Patterns of the Interior of St. Lawrence Platform: The Lower Ordovician Romaine Formation, Western Anticosti Basin, Quebec, *in* J.R. Derby, R.D. Fritz, S. A. Longacre, W.A. Morgan, and C.A. Sternbach, (eds.), *The great American carbonate bank: The geology and economic resources of the Cambrian-Ordovician Sauk megasequence of Laurentia*: AAPG Memoir 98, p. 525-545.

Lavoie, D., M. Malo, and A. Tremblay, 2003, The Cambrian-Ordovician successions along the ancient continental margin of Laurentia; recent advances, *in* D. Lavoie, M. Malo, and A. Tremblay, (eds.), *The Appalachian forelands and platform NATMAP project; geological bridges of Eastern Canada*: Canadian Journal of Earth Sciences, v. 40/2, p. 131-133.

The Great American Bank in Eastern Canada A Synthesis



Denis Lavoie

Geological Survey of Canada

André Desrochers

University of Ottawa

George Dix

Carleton University

Ian Knight

Geological Survey of Newfoundland and Labrador

Osman Salad Hersi

Regina University



Ressources naturelles
Canada

Natural Resources
Canada

Canada

Outline of the presentation

An inherited rugged morphology after Rodinia Break-up

- Early Cambrian events at the St. Lawrence Promontory

The Middle – Upper Cambrian narrow – high-energy platform

- A spectacular development at the St. Lawrence Promontory
- The first record of the GACB in the Quebec Reentrant

The Early Ordovician expansion into a wide – low-energy platform

- A general inundation over the paleo-southern margin of Laurentia

The late Early – Middle Ordovician demise of the GACB

- The northeastward diachronism in the destruction of the GACB

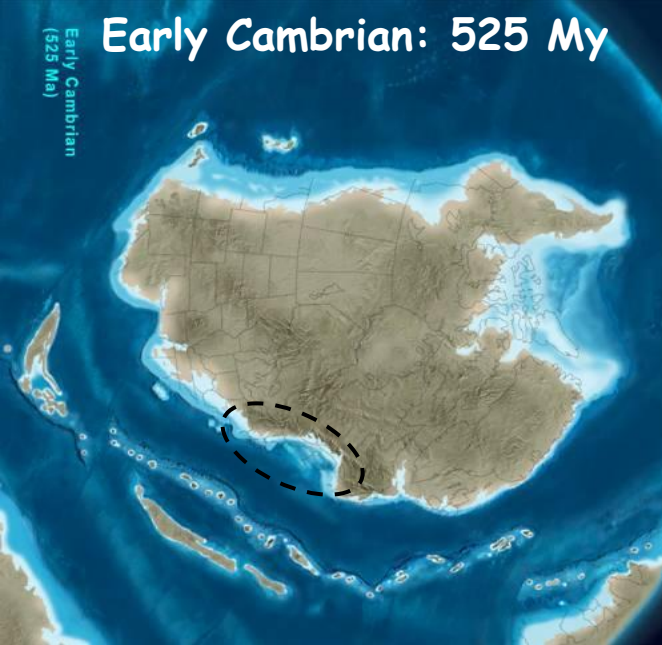
The Early – Middle Cambrian missing link in the Quebec Reentrant

- The indirect record from slope facies



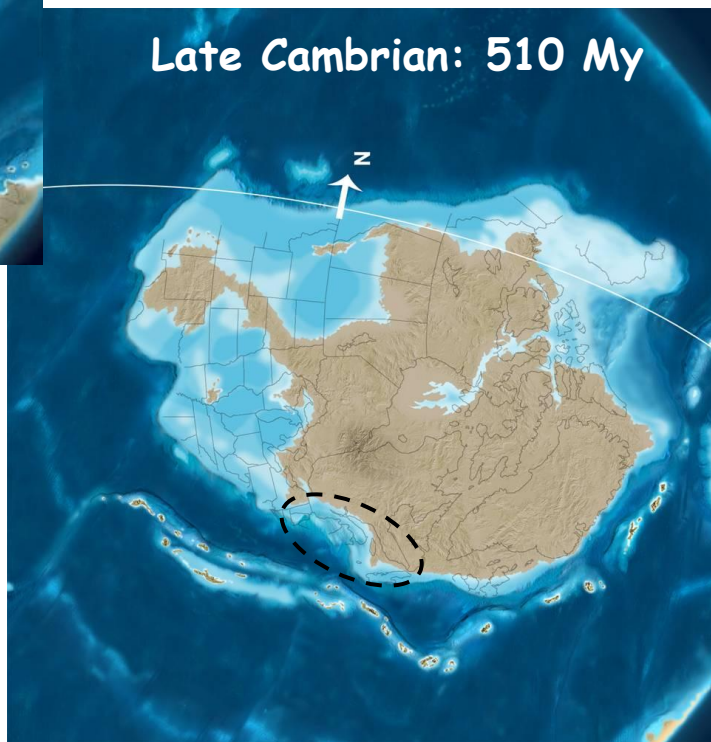
Early Cambrian
(525 Ma)

Early Cambrian: 525 My

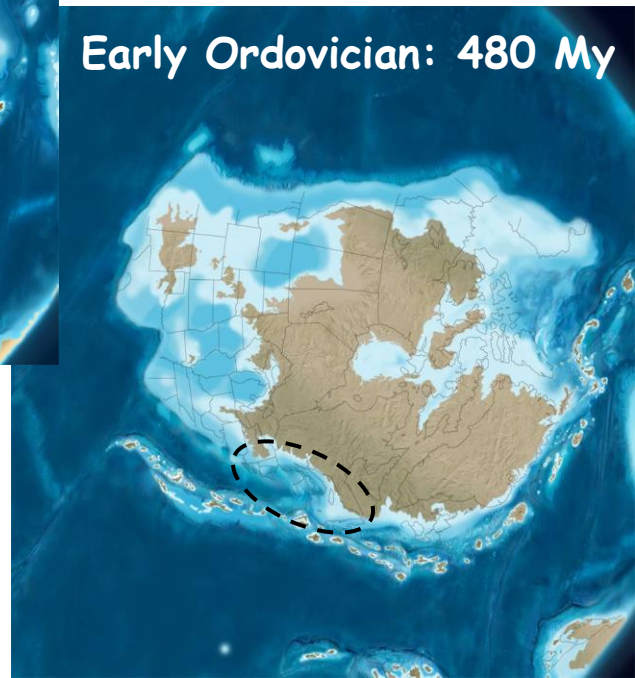


Early Drift

Late Cambrian: 510 My



Early Ordovician: 480 My



High-energy platform

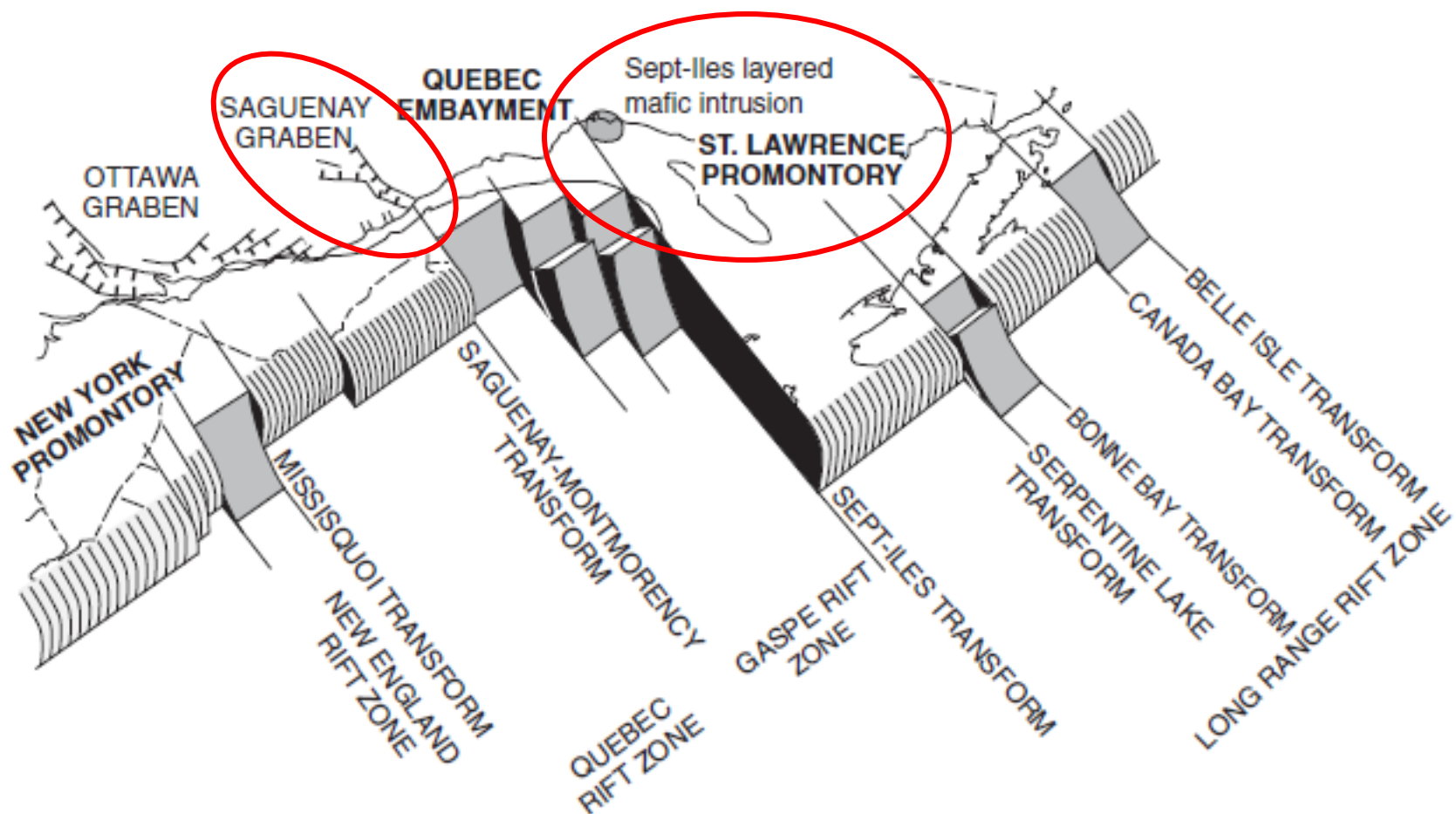
Low-energy platform



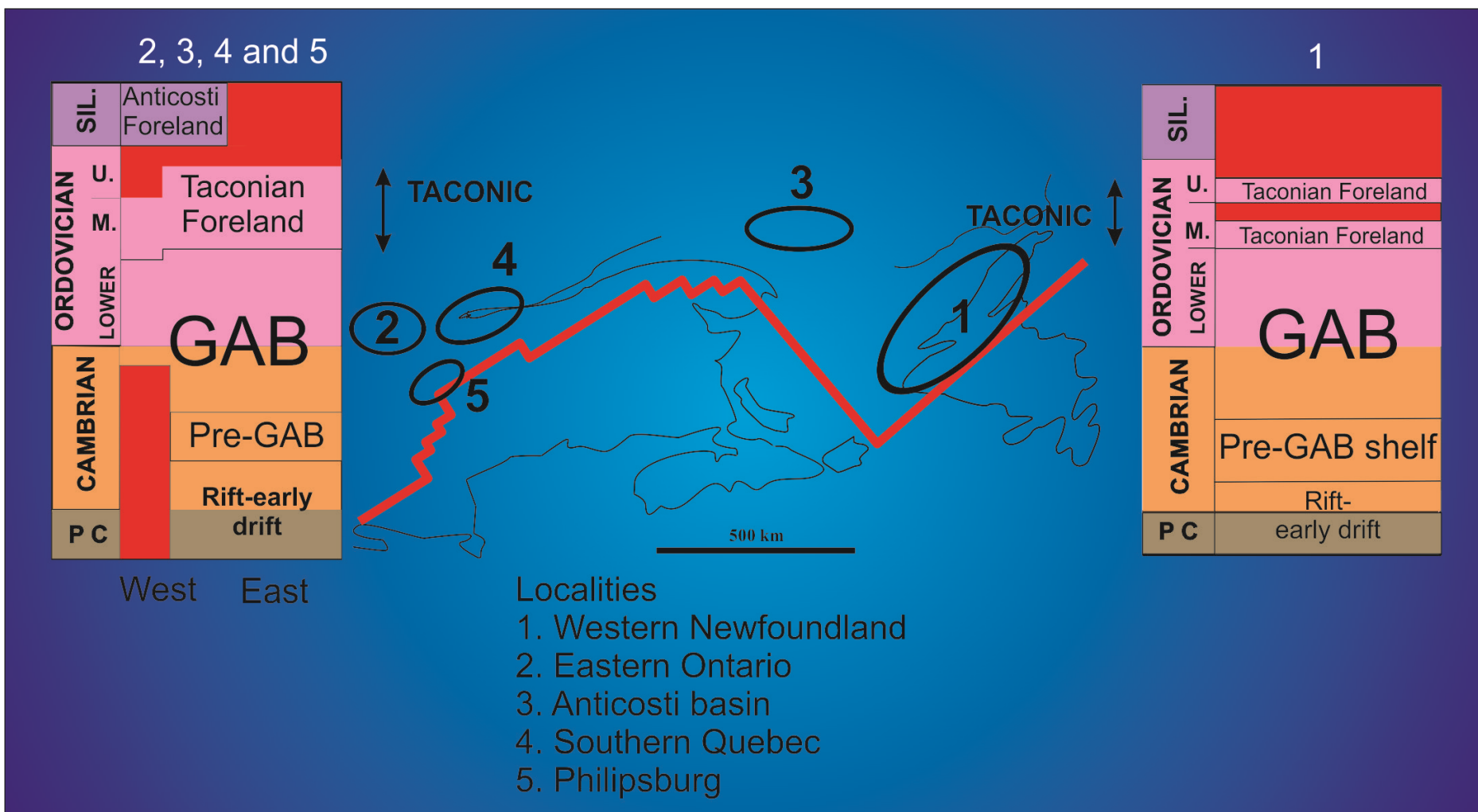
Ressources naturelles
Canada

Natural Resources
Canada

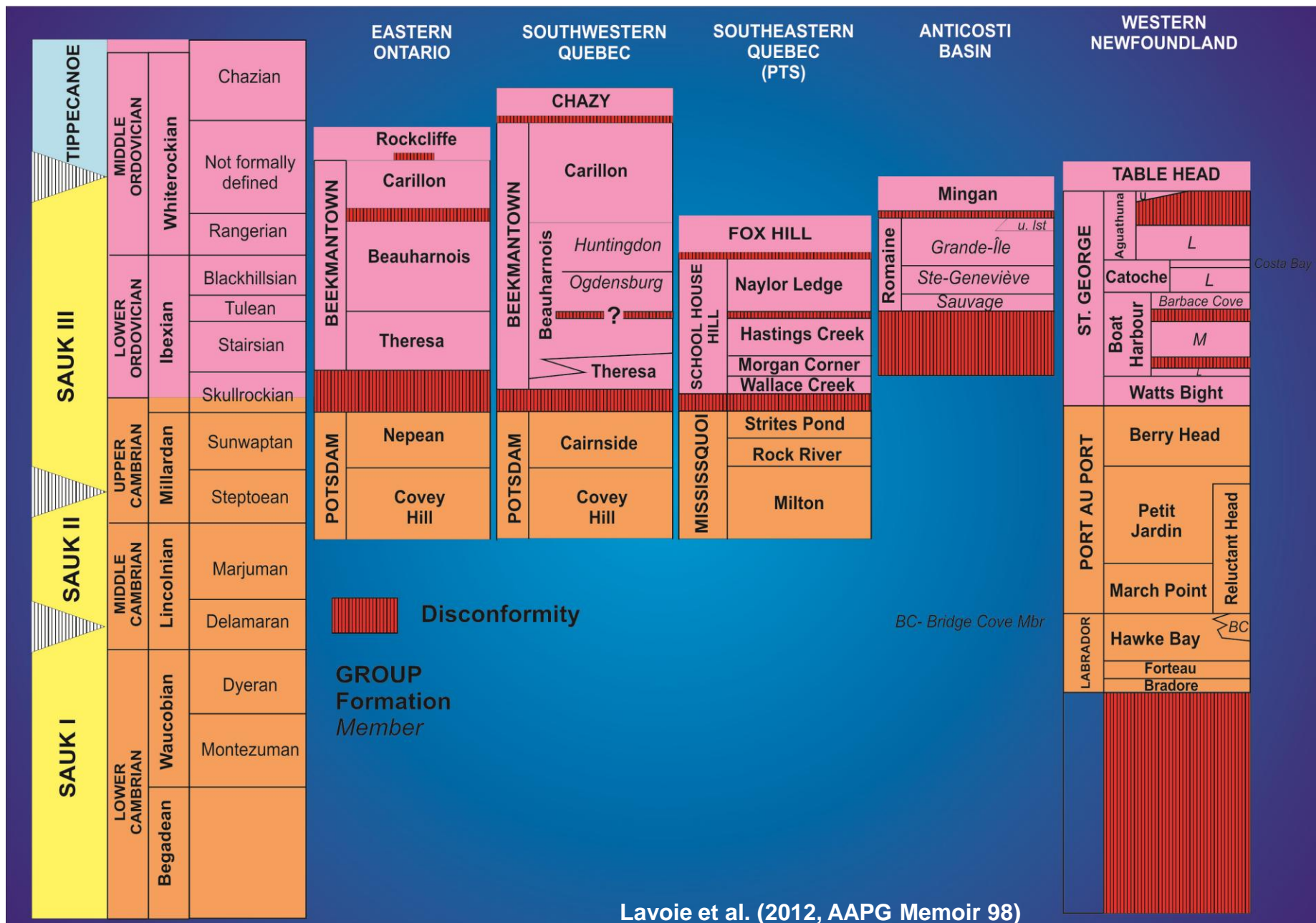
First-order and second-order promontories and reentrants



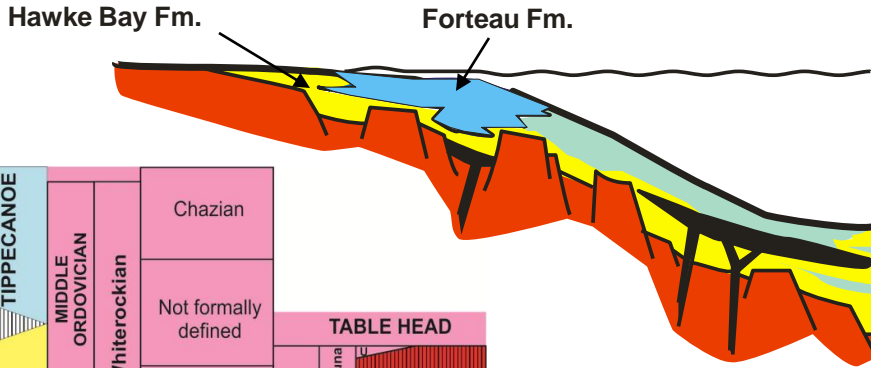
Diachronism in the establishment and destruction of the GACB



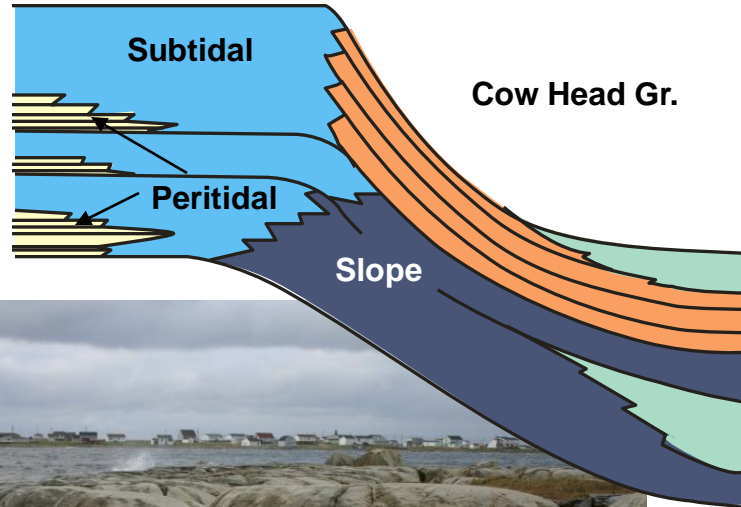
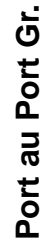
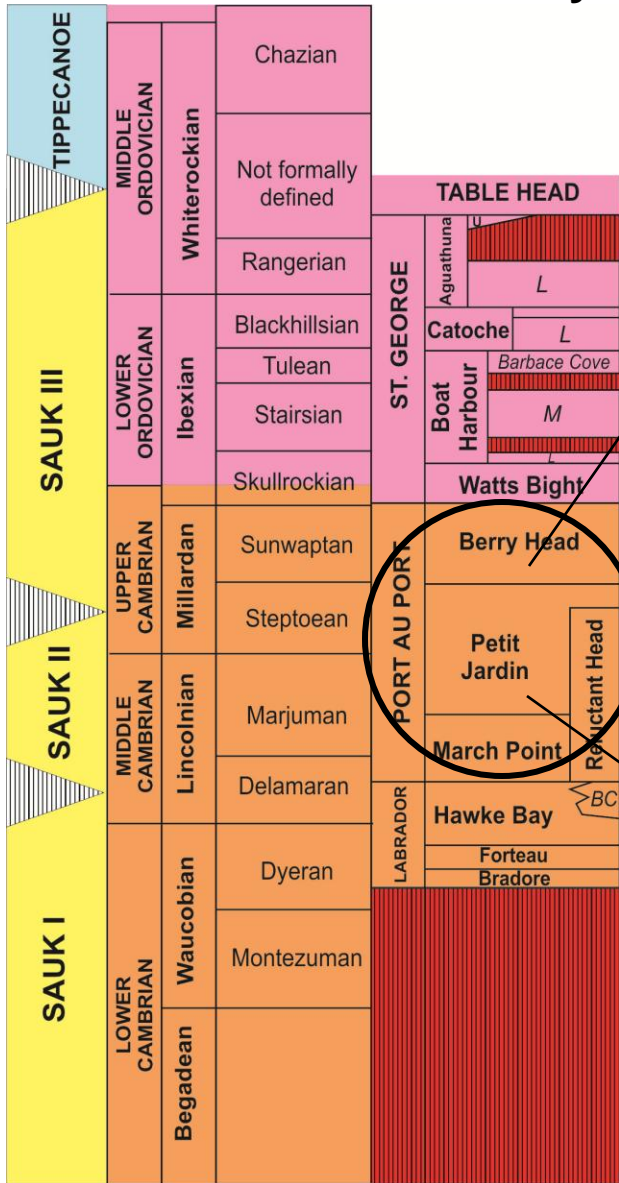
The stratigraphic record of GACB in eastern Canada



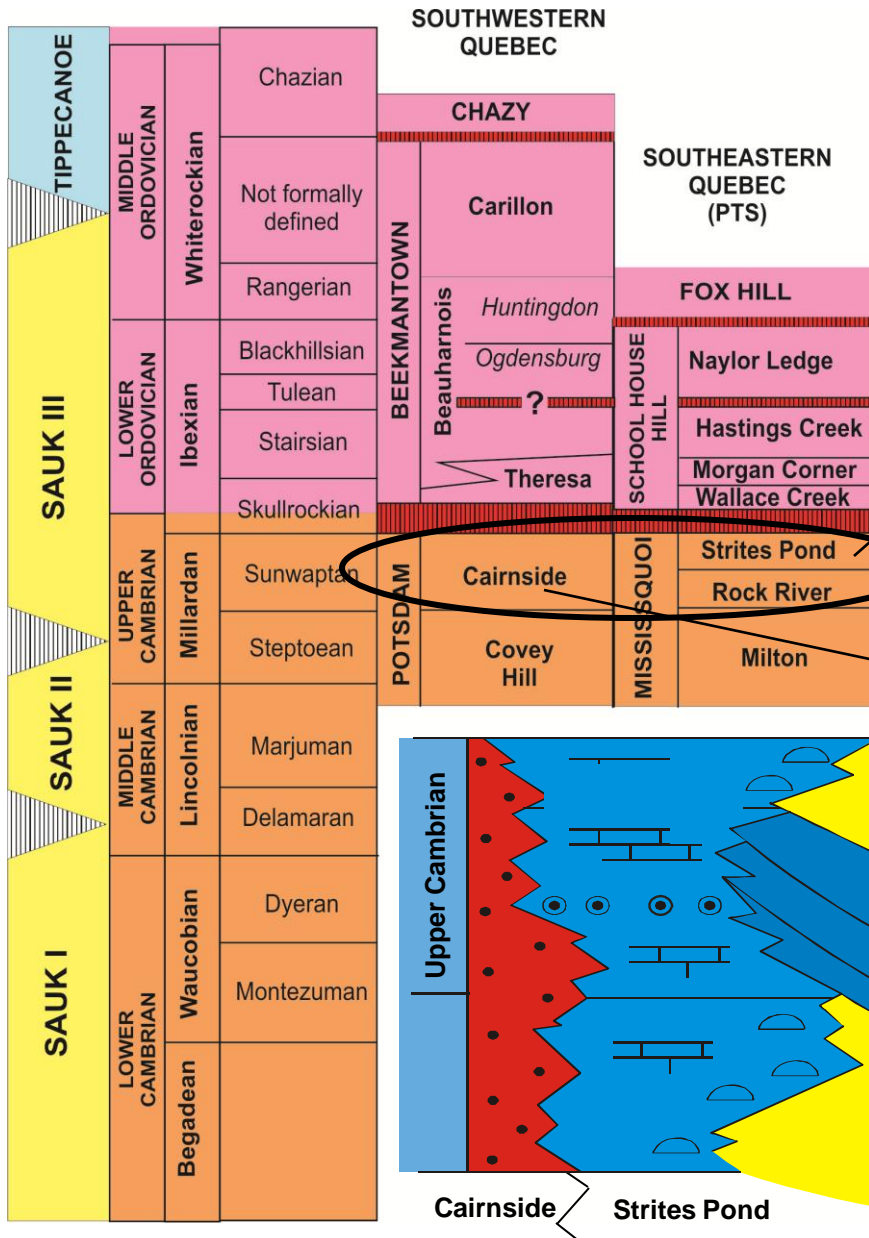
The early Cambrian rift-early drift St. Lawrence Promontory



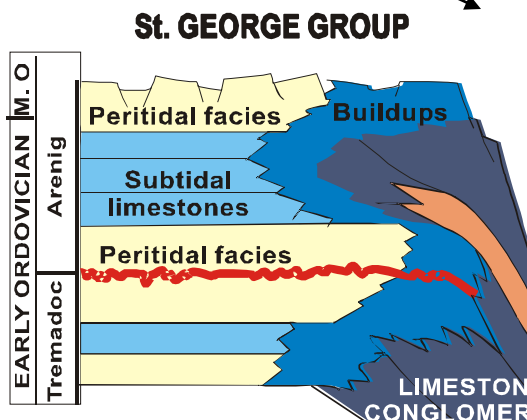
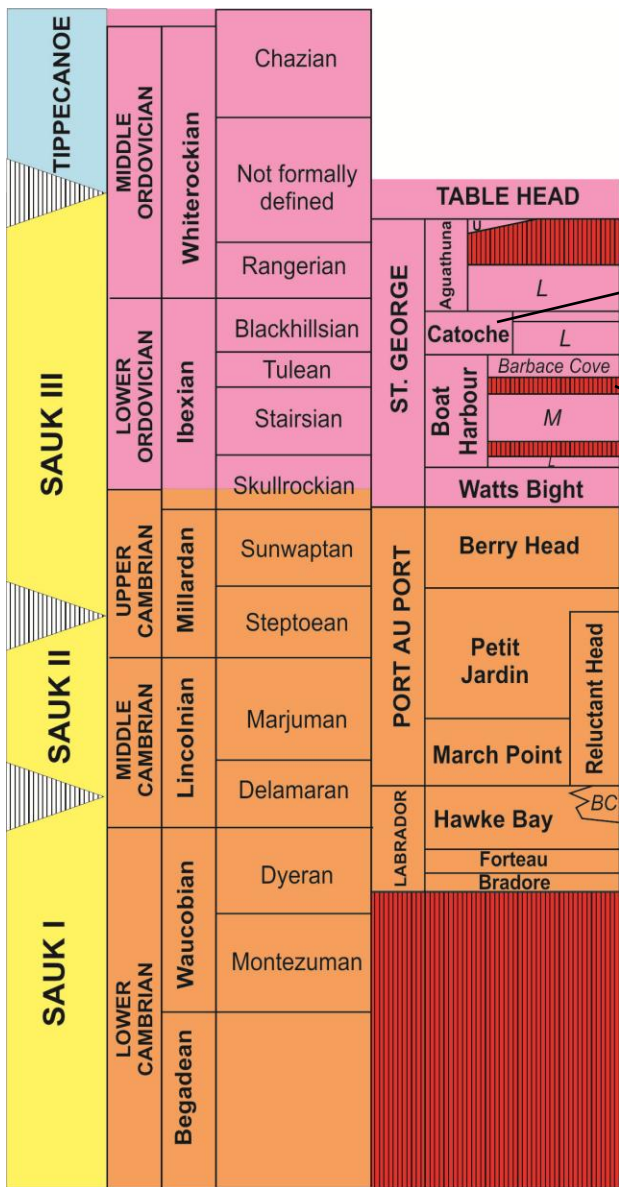
The Middle – Upper Cambrian high-energy platform St. Lawrence Promontory



The Upper Cambrian clastics to carbonate platform- Quebec Reentrant

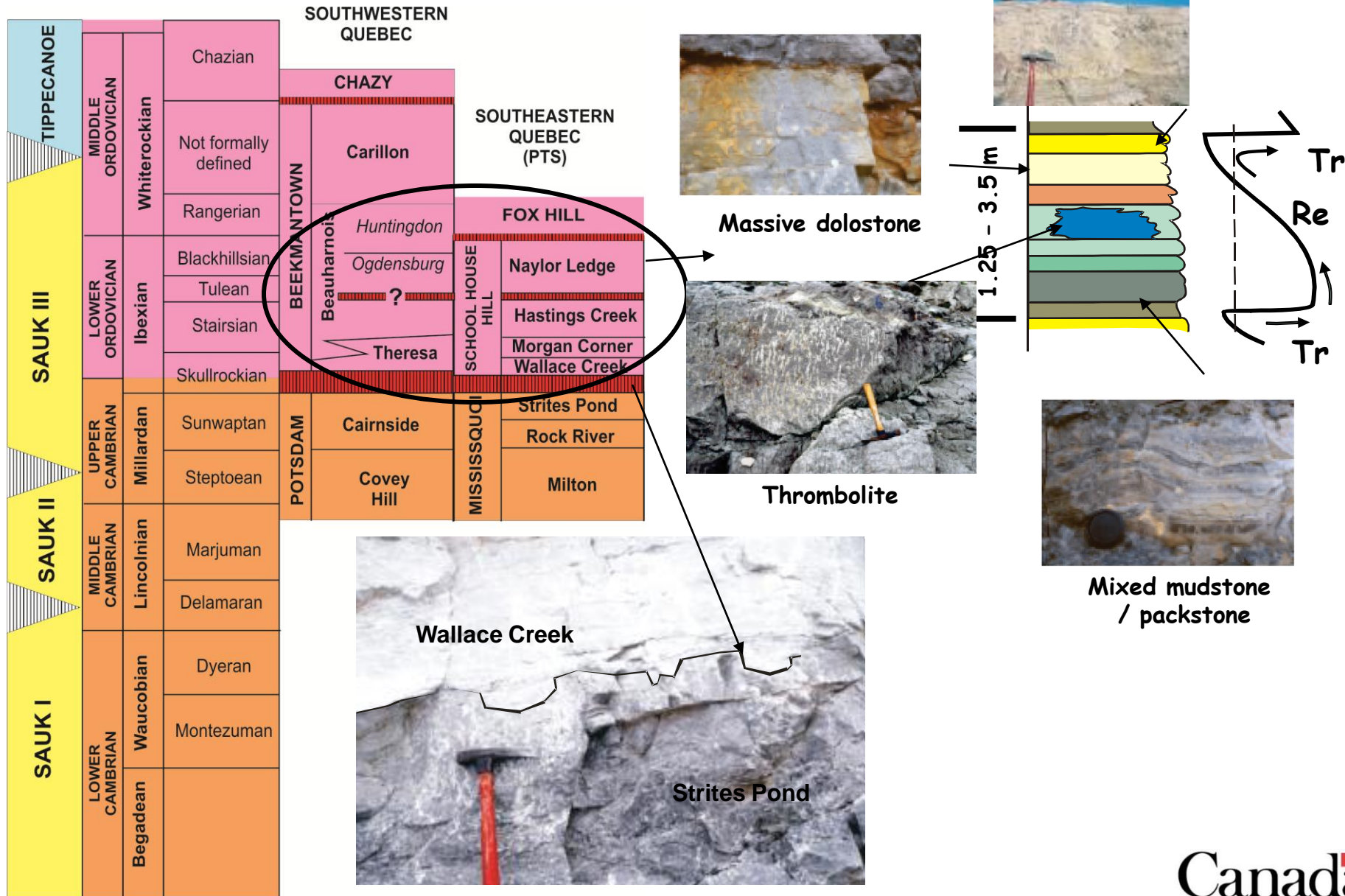


The Early Ordovician low-energy platform St. Lawrence Promontory



SHALE

The Early Ordovician low-energy platform Quebec Reentrant



The end of the GACB at the St. Lawrence Promontory St. George Unconformity

| | | | | | | | |
|---------|-------------------|--------------|----------------------|----------|--------------|------------|------------|
| SAUK I | LOWER CAMBRIAN | Waucobian | Dyeran | LABRADOR | PORT AU PORT | ST. GEORGE | TIPPECANOE |
| | | | Montezuman | | | | |
| | MIDDLE CAMBRIAN | Lincolnian | Delamaran | | | | |
| | | | Marjuman | | | | |
| | | | Stepptoean | | | | |
| | | | Sunwaptan | | | | |
| | UPPER CAMBRIAN | Millardian | Skullrockian | | | | |
| | | | Stairsian | | | | |
| | LOWER ORDOVICIAN | Ibexian | Tulean | | | | |
| | | | Blackhillsian | | | | |
| SAUK II | LOWER ORDOVICIAN | Ibexian | Skullrockian | | | | |
| | | | Watts Bight | | | | |
| | | | Barbace Cove | | | | |
| | | | Boat Harbour | | | | |
| | | | Catoche | | | | |
| | MIDDLE ORDOVICIAN | Whiterockian | Not formally defined | | | | |
| | | | Rangerian | | | | |
| | | | Chazian | | | | |
| | | | TABLE HEAD | | | | |
| | | | Aguathuna | | | | |



The end of the GACB in the Quebec Reentrant

The Sauk-Tippecanoe Unconformity

| | | | | | | | | | | |
|----------------|-----------|-----------------|----------------|------------------|-------------------|--------------|--|-------------------|------------|--|
| SAUK I | | | SAUK II | | | SAUK III | | | TIPPECANOE | |
| LOWER CAMBRIAN | | MIDDLE CAMBRIAN | UPPER CAMBRIAN | LOWER ORDOVICIAN | MIDDLE ORDOVICIAN | | | | | |
| Begadean | Waucobian | Lincolnian | Millardan | Ibexian | Whiterockian | | | | | |
| Montezuman | | Dyeran | | Marjuman | | Sunwaptan | | FOX HILL | | |
| | | Delamaran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | SCHOOL HOUSE HILL | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Steptoean | | Skullrockian | | | | |
| | | Dyeran | | Marjuman | | Sunwaptan | | MISSISSQUOI | | |
| | | Dyeran | | Steptoean | | | | | | |



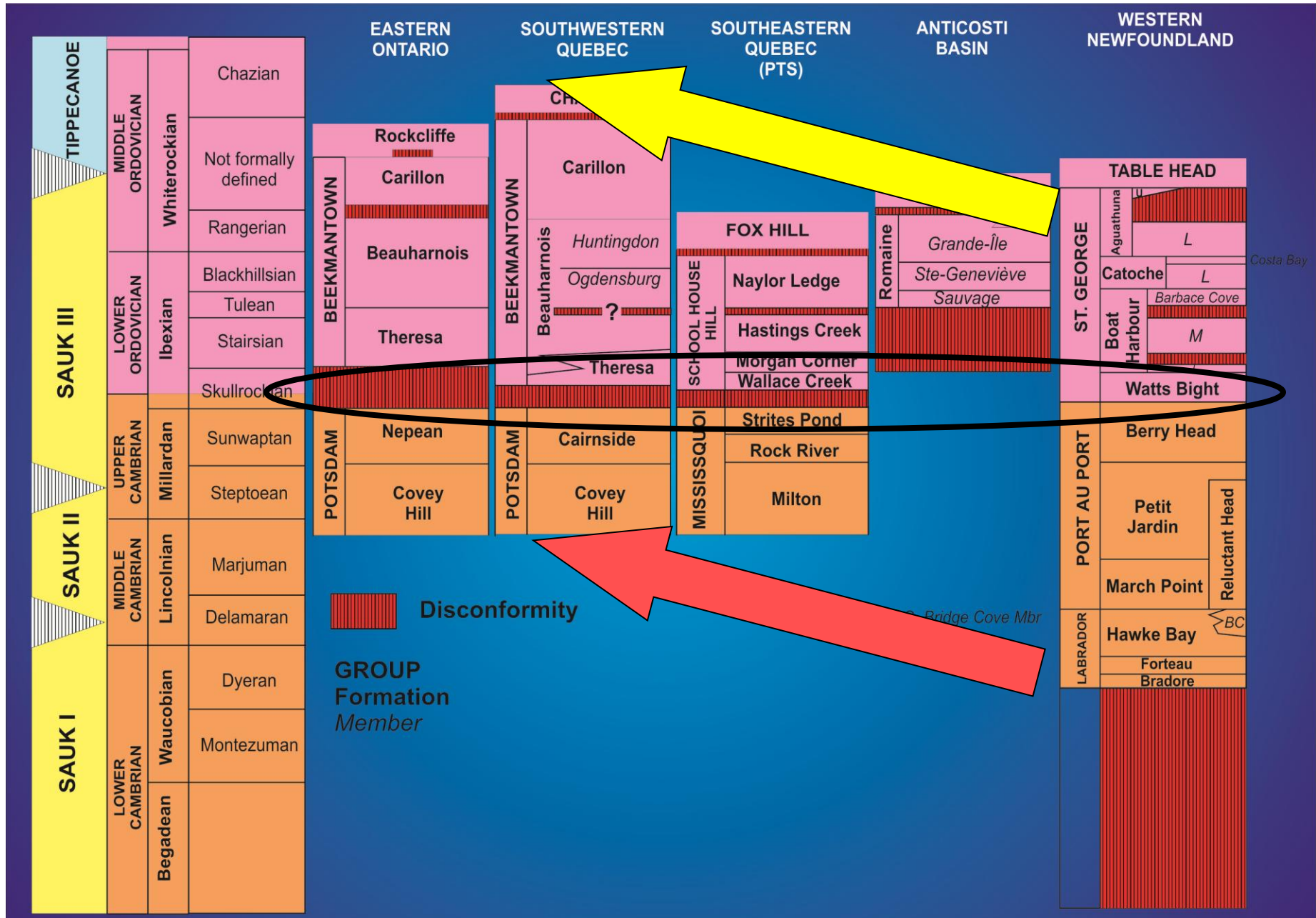
The Upper Cambrian highstand conglomerate shedding on the slope at the Promontory



The Upper Cambrian tectonic lowstand on the slope in the Reentrant



The westward diachronic foundation and demise of the shallow GACB



Conclusions

The (preserved) record of shallow marine Cambrian-Ordovician carbonates is by far, much more complete at the St. Lawrence Promontory with an early attempt of carbonate platform establishment in late Early Cambrian

The oldest record of preserved shallow marine carbonates in the Quebec Reentrant is of Late Cambrian age. However, diverse carbonate clasts of late Early to Late Cambrian age in slope facies indicate that a platform was likely present at the outboard domain of the Quebec Reentrant

A significant unconformity separates the Cambrian and Ordovician rocks in the Quebec Reentrant with the hiatus being progressively longer in a westward direction. No unconformity has been developed at the St. Lawrence Promontory

The Early Ordovician carbonate facies are nearly identical along the entire Canadian segment of the GACB. However, the tectonic demise of the carbonate platform occurred earlier at the St. Lawrence Promontory and the end of passive margin in the Quebec Reentrant is also diachronic in a westward direction.

